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# TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION  
U.S. DEPARTMENT OF AGRICULTURE · · FOREST SERVICE

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CURRENT SERIAL RECORD

1960 Forest Tree Seed Crop Generally Good in the Lake States

During 1960, forest tree seed production in general was the best since 1950, and second best for the 15 years of record, according to observations made at field centers of the Lake States Forest Experiment Station (see table on reverse side). Except in North Dakota one or more species produced bumper crops in each locality of the region, although seed production generally was best in northeastern Wisconsin and central Upper Michigan. Compared to 1959, production was better in all sections of the region.

In northern Minnesota, bumper crops were reported from some localities for white spruce, black spruce, balsam fir, northern white-cedar, and paper birch. Most of the other species had fair to good crops, although failures were reported locally for red pine, eastern white pine, and tamarack.

Bumper crops for white spruce, northern white-cedar, basswood, and yellow birch were reported in northeastern Wisconsin. All other species had good crops in that section except red pine (fair) and black ash (poor).

White spruce, balsam fir, eastern hemlock, sugar maple, and yellow birch produced bumper crops in central Upper Michigan. All other species had fair to good seed crops.

In Lower Michigan seed production generally was poorer than in other parts of the Lake States, although bumper crops were produced by eastern white pine and balsam fir and good crops by red pine, sugar maple, and black cherry. All other species had fair to poor crops except white oak (failure).

In north-central North Dakota boxelder, green ash, Russian-olive, and caragana produced good seed crops. Hackberry and bur oak had crop failures, and the other species reported had poor to fair seed production.

Because most seed collectors are interested primarily in the pines and spruces, 1960 should be considered a good year. It was a favorable year for providing seed for natural regeneration of most of our important forest tree species. For those wildlife species dependent upon mast 1960 also was a good year except in Lower Michigan and North Dakota.

April 1961

PAUL O. RUDOLF, Research Forester

Table 1.--Forest tree seed crops in the Lake States, 1960

Species	Estimated percentage of a full crop <sup>1/</sup> in--					<sup>2/</sup> -	
	Northern		Northeastern		Central		
	Minnesota		Wisconsin		Upper Michigan		
	Michigan		Michigan		Peninsula Michigan		
Red pine	7-25	50	75	75			
Eastern white pine	7-75	75	50	95			
Jack pine	50-75	75	-	50			
Ponderosa pine	-	-	-	-		25	
White spruce	50-95	95	95	50			
Black spruce	50-95	75	75	50			
Norway spruce	-	75	-	-			
Balsam fir	50-95	75	95	95			
Eastern hemlock	-	75	95	50			
Northern white-cedar	50-95	95	75	50			
Tamarack	7-50	-	-	25			
Sugar maple	50-75	75	95	75			
Red maple	-	75	75	25			
Boxelder	-	-	-	-		75	
American beech	-	-	50	25			
Basswood	50	95	50	50			
Yellow birch	75	95	95	-			
Paper birch	50-95	75	-	50			
Quaking aspen	50	75	-	25			
Bigtooth aspen	50	-	-	25			
American elm	-	75	75	25		25	
Siberian elm	-	-	-	-		25	
Hackberry	-	-	-	-		7	
White ash	-	75	-	50			
Green ash	75	-	-	-		75	
Black ash	75	25	50	-			
Bur oak	50	-	-	-		7	
Northern pin oak	75	-	-	25			
Black oak	-	-	-	50			
Northern red oak	75	75	75	25			
White oak	-	-	-	7			
Black cherry	-	-	-	75			
Chokecherry	-	-	-	-		50	
American plum	-	-	-	-		25	
Russian-olive	-	-	-	-		75	
Caragana	-	-	-	-		75	

<sup>1/</sup> Percentage of a full crop classified as 0-15, failure; 16-35, poor; 36-60, fair; 61-90, good; and 91-100, bumper.

<sup>2/</sup> A dash (-) signifies no report on this species.